WORLD INTELLECTUAL PROPERTY ORGANIZATION International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7:

C07D 487/04, 207/14, A61K 31/40

(11) International Publication Number:

WO 00/18770

A1 |

(43) International Publication Date:

6 April 2000 (06.04.00)

(21) International Application Number:

PCT/GB99/03244

(22) International Filing Date:

30 September 1999 (30.09.99)

(30) Priority Data:

9821199.8

30 September 1998 (30.09.98) GB

(71) Applicant (for all designated States except US): GLAXO GROUP LIMITED [GB/GB]; Glaxo Wellcome House, Berkeley Avenue, Greenford, Middlesex UB6 0NN (GB).

(72) Inventors; and

(72) Inventors, and
(75) Inventors, Applicants (for US only): BORTHWICK, Alan, David [GB/GB]; Glaxo Wellcome plc, Gunnels Wood Road, Stevenage, Hertfordshire SG1 2NY (GB). DAVIES, David, Evan [GB/GB]; Glaxo Wellcome plc, Gunnels Wood Road, Stevenage, Hertfordshire SG1 2NY (GB). EXALL, Anne, Marjorie [GB/GB]; Glaxo Wellcome plc, Gunnels Wood Road, Stevenage, Hertfordshire SG1 2NY (GB). LEAHY, John, Henry [GB/GB]; Glaxo Wellcome plc, Gunnels Wood Road, Stevenage, Hertfordshire SG1 2NY (GB). RAHIM, George, Saad [GB/GB]; MMI, St. John's Innovation Centre, Cowley Road, Cambridge CB4 4WS (GB). SHAH, Pritom [GB/GB]; Glaxo Wellcome plc, Gunnels Wood Road, Stevenage, Hertfordshire SG1 2NY (GB). SOLLIS, Stephen [GB/GB]; Glaxo Wellcome plc, Gunnels Wood Road, Stevenage, Hertfordshire SG1 2NY (GB). SOLLIS, Stephen [GB/GB]; Glaxo Wellcome plc, Gunnels Wood Road,

Stevenage, Hertfordshire SG1 2NY (GB). WEINGARTEN, Gordon, Gad [GB/GB]; Glaxo Wellcome plc, Gunnels Wood Road, Stevenage, Hertfordshire SG1 2NY (GB).

(74) Agent: THORNLEY, Rachel, M.; Glaxo Wellcome plc, Glaxo Wellcome House, Berkeley Avenue, Greenford, Middlesex UB6 0NN (GB).

(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published

With international search report.

Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: PYRROLOPYRROLONE DERIVATIVES AS ANTIVIRAL AGENTS

(57) Abstract

The present invention relates to therapeutically active bicyclic compounds, processes for the manufacture of said compounds, pharmaceutical formulations containing said compounds and the use of said compounds in the treatment and prophylaxis of viral infections, more particularly infections caused by viruses which encode for a serine protease enzyme, especially viruses of the Herpes family. The invention provides compound of general formula (I) (relative stereochemistry shown) and pharmaceutically derivatives acceptable wherein R represents H substituted or unsubstituted C₁₋₃ alkyl; R₁ $\begin{array}{c|c}
R & & \\
H & & \\
N - R_1 \\
N - R_1
\end{array}$ $\begin{array}{c|c}
N - R_1 \\
H & \\
N - R_2
\end{array}$ $\begin{array}{c|c}
N - R_1 \\
H & \\
N - R_2
\end{array}$

$$R_6$$
 (a) R_6

R_e (b)

represents optionally substituted heteroaryl or fused heteroaryl, with one to four heteroatoms, or R₉CO; R₃ represents C₁₋₆alkyl, C₁₋₆alkenyl, optionally substituted three to seven member, preferably four to seven member, N-heterocycle containing up to two heteroatoms, (a) or (b); and R₄, R₅, R₆, R₇ and R₉ independently represent H or a substituted or unsubstituted alkyl, alkenyl, cycloalkyl, cycloalkenyl, aryl or heteroaryl group as defined in the specification.